REMARKS

In light of the new rejection, Applicants withdraw the cancellation of Claims 1-39 in their response dated June 7, 2006. This is consistent with the "Disposition of Claims" as noted by the Examiner in the Office Action Summary (PTOL-326), wherein Claims 1-39 are listed as withdrawn. Applicants consider that the Examiner has entered the June 7, 2007 amendment of Claim 51.

Rejection under 35 U.S.C. §102(b)

The Examiner has rejected Claims 40-65 under 35 U.S.C. 102(b) as being anticipated by Banin '453. The Examiner has not provided any further information about the basis for the rejection except to point generally to portions of Banin, *i.e.*, abstract, column 1, lines 55-67, column 2, lines 1-12, lines 40-67, column 3, lines 7-53, column 4, lines 10-25, lines 61-67, column 5, lines 1-2, lines 34-48, column 6, lines 25-43, column 8, lines 15-45, column 9, lines 15-63.

Applicants' Independent Claim 40 recites a graded core/shell semiconductor nanorod comprising at least a first segment comprising a core comprising a Group II-VI, Group III-V or a Group IV semiconductor, ***a graded shell overlying the core***, wherein the graded shell comprises at least two monolayers, wherein the at least two monolayers each independently comprise a Group II-VI, Group III-V or a Group IV semiconductor.

Banin taught a method for the production of inorganic semiconductor nanocrystals having a rod-like shape, more specifically, rod shaped Group III-V semiconductor nanocrystals. (abstract) None of the portions of Banin to which the Examiner has pointed nor anywhere else in Banin was a graded shell overlying a first segment taught. Banin did not teach a graded shell, as recited in the instant claim. Banin did not teach a graded shell comprising at least two monolayers, as recited in the instant claim. Banin did not teach each and every element of Applicants' Claim 1 and therefore does not anticipate the claim.

Independent Claim 51 recites a nanorod barcode, comprising a first segment of a first material and a second segment of a second material joined longitudinally to the first segment, wherein at least one of the first and second segments is capable of generating emission in response to excitation energy.

Banin taught a method of forming nanorods of inorganic semiconductors with controlled diameters and lengths. Benin taught that his method could be used to make "any of the inorganic semiconductor nanocrystals in rod shape". (Col 5, lines 34-40) Banin did not teach a nanorod with a first segment of a first material and a second segment of a second material joined longitudinally to

the first segment. Banin taught only semiconductor nanocrystal nanorods made of a single material, and therefore does not anticipate Claim 51.

Independent Claim 65 recites a method of using a nanorod barcode to identify an element, comprising labeling at least one identifiable element with at least one nanorod barcode as claimed in claim 51.

Banin taught neither nanorod barcodes nor the use thereof as recited in Claim 65.

Dependent Claims 41-50 and 52-64 each depend from one of the independent Claims 40 and 51 and therefore include all the features and limitations thereof. Furthermore, the dependent claims add further distinguishing features of particular utility. Accordingly, Applicants submit that the dependent claims are not anticipated over Banin.

Applicants respectfully traverse the rejections and submit that Banin failed to teach each and every feature of the claims.

CONCLUSIONS

In view of the foregoing remarks, Applicants submit that the application is in condition for allowance. If, however, some issue remains which the Examiner feels may be addressed by Examiner's amendment, the Examiner is cordially invited to call the undersigned for authorization.

Please charge any additional fees, including fees for additional extensions of time, or credit overpayment to Deposit Account No. 120690.

Respectfully submitted,
Regents of the University of California
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Dated: September 20, 2007

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